Antibacterial Activity of Hydro Alcoholic Extracts of Borago officinalis

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Background & Objectives: *Borago officinalis* is an annual herb naturalized throughout the Mediterranean region, as well as Asia Minor, Europe, North Africa, and South America. It grows to a height of 60–100 cm (2.0–3.3 ft), and is bristly or hairy all over the stems and leaves; the leaves are alternate, simple, and 5–15 cm (2.0–5.9 in) long. The flowers are complete, perfect with five narrow, triangular-pointed petals. Flowers are most often blue in color, although pink flowers are sometimes observed. This study was designed to examine in vitro anti-bacterial potential of methanolic and ethanolic extract of *B.officinalis*.

Methods: The inhibitory effect of methanolic and ethanolic extract of *B.officinalis* was tested against 3 Gram positive: Bacillus cereus, Staphylococcus aureus and Staphylococcus epidermidis and 5 Gram negative: *Salmonella typhi, Klebsiella pneumonia, Escherichia coli, Pseudomonas aeruginosa, and Proteus mirabilis* ATCC bacterial species by disc diffusion methods at various concentrations from 600 mg/ml to 50 mg/ml. The viability of bacterial species was analyzed by susceptibility test (minimum inhibitory concentration and minimum bactericidal concentration).

Results: The extract of B.officinalis was active against: *Bacillus cereus, Staphylococcus aureus, Staphylococcus epidermidis, Escherichia coli*. The zone of inhibition for these bacterial species for methanolic extract was 8, 10, 19, 6mm. and about ethanolic extract was 8, 12, 20, 12mm. MIC and MBC for *Staphylococcus aureus* and *Staphylococcus epidermidis* for methanolic extract were 80mg/ml-160mg/ml and 80mg/ml-160mg/ml respectively.

Conclusion: This extract can be used as antibacterial substance against some bacterial species such as *Staphylococcus aureus* and *Staphylococcus epidermidis*.

Keywords: *Borago officinalis;* Disk Diffusion Methods; Antibacterial Activity